

# Mobile application developer

## Assessment

### Objective:

The objective of this assessment is to evaluate the skills and proficiency of mobile application developers in creating a mobile application using **Swift** or **Kotlin**. The assessment will test the developer's knowledge and ability to implement modules related to database management, API calling, and security.

### Instructions:

1. Choose either **Swift** or **Kotlin** as the programming language for the assessment.
2. Develop a mobile application based on the given requirements below.
3. Pay attention to the modules related to database management, API calling, and security as specified.
4. Submit the source code to GitHub, Google Drive or attach as Zip in email.

### Requirements:

#### 1. Mobile Application:

■ Create a mobile application that allows users to **sign in, view movie listing, search by movie title, view search results, view details of the selected movies.**

- The application should have a clean and intuitive user interface.
- Implement appropriate UI controls for an enhanced user experience (e.g., buttons, text fields, lists).
- The candidate will be required to create 3 screens as below:

##### 1. User Login Screen

- The user able to enter their username and password to sign in to the application.
- The candidate can choose to use Firebase for authentication or hardcoded username and password.
- Validation or error handling

- Login credential:
    - Username - VVVBB,
    - Password - @bcd1234
  - Please refer to the attached wireframe as reference
2. Movie List Screen
- The user able to enter movie title to search for movies
  - The list need to be scrollable
  - The screen should have offline support, meaning that it should be able to display all previously loaded movie listings even when the device is not connected to the internet.
  - The movie list can be fetch from OMDb. For example, the following request will fetch a list of movies title of 'Marvel'
    - <http://www.omdbapi.com/?apikey=6fc87060&s=Marvel&type=movie>
  - Tapping on a movie should take user to 'Movie Details Screen'
  - Please refer to the attached wireframe as reference
3. Movie Details Screen
- The details can be fetched from the OMDb. For example, to get movie details.
    - <http://www.omdbapi.com/?apikey=6fc87060&i=tt4154664>
  - The user should be able to navigate back to movie list screen
  - Please refer to the attached wireframe as reference

## 2. Database Management:

- Use a local database to store and **retrieve the movie list only**.
- The purpose of local database is used to support mobile application in offline condition.
- Choose an appropriate database technology for your selected programming language (e.g., Core Data for Swift, Room for Kotlin, RealmDB).
- Create a database schema that can store task-related information.
- Implement database operations for adding, updating, and deleting movie list.

- Display the list of movies fetched from the database in the application's user interface when application in no internet condition.

3. API Calling:

- Integrate an API to fetch information related to the tasks.
- Make API calls to retrieve relevant data based on the movie details.
- Display the fetched data along with the tasks in the application's user interface.

4. Security:

- Implement appropriate security measures to protect user data.
- Apply encryption techniques to store sensitive data securely.
- Ensure that user authentication and authorization are implemented or store user credential securely.

## 5. Sample

The image displays two side-by-side screenshots of a mobile application's login screen. Both screenshots show a top status bar with the time (14:51), signal strength, battery level (100%), and connectivity (4G).

**Left Screenshot:**

- A blue sofa icon with two people sitting on it, each holding a bucket of popcorn.
- The text "Access more with an account" in bold blue font.
- The text "Login to an account so you could access more features" in blue font.
- A large blue rounded rectangle button labeled "Login".
- A white rounded rectangle button labeled "Sign up" with a blue border.

**Right Screenshot:**

- A blue arrow pointing left.
- The text "Welcome back" in bold blue font, followed by a yellow hand icon.
- The text "I am so happy to see you again. You can continue to login for more features." in blue font.
- A light gray rounded rectangle input field labeled "Email".
- A light gray rounded rectangle input field labeled "Password".
- A large blue rounded rectangle button labeled "Login".
- The text "Don't have an account? [Sign up](#)" in blue font.

14:50

2.00 4G 4G 100

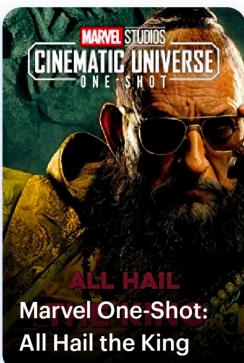
## Marvel



Captain Marvel



Marvel One-Shot:  
Agent Carter



Marvel One-Shot:  
All Hail the King



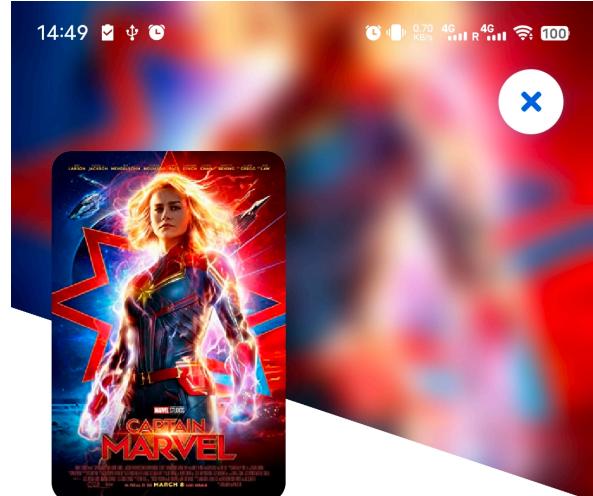
Marvel One-Shot:  
Item 47



Marvel One-Shot:  
The冬日战士



Marvel One-Shot:  
The冬日战士



★★★★★ 6.8 / 10 525,805 Ratings

## Captain Marvel (2019)

Action, Adventure, Sci-Fi

### Plot Summary

Carol Danvers becomes one of the universe's most powerful heroes when Earth is caught in the middle of a galactic war between two alien races.

### Other Ratings

Internet Movie Database

6.8 / 10

Rotten To